

CLAIMS

1. A field electron emission film used for a field electron emission electrode, comprising:

5 carbon nanotube structural body of 0.001 to 40 % by weight; and

a heat decomposition product obtained by heat decomposition of a heat-decomposable metal compound.

2. The field electron emission film as cited in claim 10 1, wherein;

said heat-decomposable metal compound is an organo-metallic compound.

3. The field electron emission film as cited in claim 15 1, wherein;

said heat-decomposable metal compound is metal salt.

4. The field electron emission film as cited in claim 1, wherein;

20 said heat-decomposable metal compound is an organo-metallic salt compound.

5. The field electron emission film as cited in claim 1, wherein;

25 said heat-decomposable metal compound is metal complex.

6. The field electron emission film as cited in claim 1, wherein;

said heat decomposition product is composed of a plurality of metals.

7. The field electron emission film as cited in claim
5 6, wherein;

said plurality of metals are Sn and at least one metal selected from In and Sb.

8. The field electron emission film as cited in claim
10 7, wherein;

said plurality of metals are Sn and In, where ratio of Sn to In is 6 at% or more.

9. The field electron emission film as cited in claim
15 1, wherein;

thickness of said field electron emission film is 0.05 μm to 20 μm .

10. A field electron emission electrode of 2-pole type,
20 comprising:

a cathode and a field electron emission film sequentially formed on a support, wherein;

said field electron emission film comprises 0.001 to 40 % by weight of carbon nanotube structural body and a heat
25 decomposition product obtained by heat decomposition of a heat-decomposable metal compound.

11. A field electron emission electrode of 3-pole type,

comprising:

a cathode, an insulating film, and a gate electrode sequentially formed on a support;

an opening formed in common in the insulating film and
5 the gate electrode; and

a field electron emission film formed at least on the cathode exposed in the opening, wherein;

said field electron emission film comprises 0.001 to 40 %
by weight of carbon nanotube structural body and a heat
10 decomposition product obtained by heat decomposition of a
heat-decomposable metal compound.

12. A field electron emission display device comprising:

a cathode panel having a plurality of field electron
15 emission electrodes disposed thereon; and

an anode panel having a fluorescent layer and an anode disposed thereon, the both panels being bonded at the individual circumferential portions thereof, wherein;

said electrode as cited in claim 10 or 11 is used as the
20 field electron emission electrode.